

## Net producer since 100 years...

Badinotti GROUP spa was established in 1910 in Milan (ITALY). Badinotti uses the most modern machinery and offers a huge range of both knotted and knotless netting in nylon, polyester, polypropylene, and polyethylene for aquaculture, fishing, safety and sport. In a dynamic industry with constant changes, our company recognizes the need to use the newest technologies available and thereby producing the best netting more efficiently and in wider widths. We can boast of a large production capacity and thus offering excellent delivery times.

This allows us to supply product with the best durability and weight/breaking-strength ratios in the industry. While some manufacturers have high variations in breaking strength, our netting has very consistent properties. High yarn quality ensures consistent product performance. Vertical integration allows the company to carry out the complete production process: weaving, fixing, dyeing and quality control of final product. Whatever the final use, each net warrants specific properties: resistance; durability; volume and weight. As a result of the company commitment to quality and service, all premises are ISO 9001:2000 and NS9415 certified.



### CHEMICAL AND PHYSICAL CHARACTERISTICS OF SYNTHETIC FIBERS

Chemical/physical characteristics	FIBRA					
	PA 6 HT	PA 66 HT	PES HT	PP	Dyneema® SK75	PE
Tenacity (gr./den)	9	9	9	7	40	5
Elongation at break(%)	23	20	14	18	3,5	20
UV rays resistance	medium	weak	medium	medium	good	medium
Specific weight	1,14	1,14	1,38	0,91	0,97	0,97
Melting point C°	215-220	255-260	250-260	160-175	144-152	125-135
Resistance to alkalis	good	good	weak	good	good	good
Acid resistance	weak	weak	good	good	good	good
Moisture absorption% (65%-20°C)	3,5-4,5	3,4-4,5	0,2-0,5	0	0	0

### EMPIRICAL CRITERIA FOR IDENTIFICATION OF SYNTHETIC FIBERS

Identification	FIBER			
	PA	PES	PE	PP
Combustion	Fusion followed by a short-term flame with ejection of fused droplets	Fusion followed by slow combustion with bright yellow flame	Fusion followed by slow combustion with a dim blue flame	Fusion followed by slow combustion with a dim blue flame
Smoke	White	Black with Soot	White	White
Odour	Celery	Hot oil	Blowing out candle	Hot wax
Residuals	Welding residuals grey/dark	Welding residuals hard and dark	Welding residuals soft	Welding residuals hard

#### ABBREVIATION

PA 6 HT Polyamide (Nylon) 6 High tenacity  
 PA 6,6 HT Polyamide (Nylon) 6,6 High tenacity  
 PES HT Polyester High tenacity  
 PP Polypropylene  
 PE Polyethylene



## POLYAMIDE (NYLON) NET

The polyamide net can be manufactured adopting a weaving technology called "Superknot" granting, under the same title, a higher breaking strength, although, in such a case there is an increase of the weight.

In addition to a higher breaking strength, another important characteristic of the "Superknot" is the good retaining in case of holes for net rupture or tearing so avoiding the net unravelling, once cutting is made.

Opposite side pictures show the 3 different types of production process of knotless looms and consequent hole enlargement.

- 1.- Two-needles bar
- 2.- Four-needles bar
- 3.- Superknot

Badinotti also produce the 210/500, a bigger thickness twine (over 8mm).

As well as in the safety and security application this type of net is also used for long-line mussels farming.

The larger surface available due to the bigger thickness, allow the planktonic larvae to permanently attach at the base and once they have become "sessile" their growth takes place directly on the net.

Nylon is also used to produce tubular netting of various diameters and mesh sizes.

These nets are mainly used in mussels farming and storing.



## NYLON (PA) + POLYETHYLENE (PE) NET

Nylon (PA) + Polyethylene (PE) NET

Main characteristics of a mixed Nylon + Polyethylene net, combine both the advantage of lightness of polyethylene with higher strength and breaking load of polyamide fiber

Such net type is mainly used for fish farming whose sites are generally located in protected areas sheltered from sea waves and strong winds.



## POLYESTER NET (PES)



Main features of polyester fiber:

- > Sink (density = 1,38)
- > Highly resistant to breaking
- > Good flexibility
- > Low elongation

Due to the high resistance to breaking, polyester is used in production of bird protection nets.

High resistant fiber, also suitable for frequent washing in net washer thanks to its low level of shrinkage.

Polyester net can also be supplied with a black bonding treatment to increase the durability performance.

Also available in hexagonal mesh.

COLOURS: black/white

## POLYPROPYLENE NET (PP)



Main features of polypropylene fiber:

- Floating (density = 0,91/0,92)
- Good resistance to breaking
- High resistance to abrasion

Polypropylene is used in production of bird protection nets

COLOURS: black/white/yellow/green/red/blue

The PP double bar netting ( see opposite side picture), is made of a cylindrical shape twine reaching up to a 5mm thickness. If compared to standard nets, it is excellent for a kind of molluscs farming requiring a larger surface for the "larvae establishment".

A specific weight lower than 1, so allowing the possibility of floating, confers to the net a positive thrust which contrasts the negative pressure of the sessile animals during their growth. The net named "Multicolour" is mainly used in kids playground areas as a protection against falls. The multiple dyeing is making this net very playful. Other names: AKVAFLEX - COURLENE - DANAFLEX - DRYLENE 6 - HASTALEN PP - MERAKLON - MULTIFLEX - NUFIL - PROLENE - RIBOFIL

# FISH FARMING NET MANUFACTURING

Due to the ever stricter environmental regulations as well as tendency of costs reduction in production, fish farming current trend is more and more oriented towards the use of bigger off-shore cages. Furthermore, the increased volume of the farming capacity, as well as improving the life conditions of animals, can also increase the quantity of production. Main consequences of these trends are:

1. production in rougher conditions;
2. higher risk due to the increased value of product in the cage;
3. Lesser possibilities for inspection and sites maintenance;

In view of these trends, high reliability of the net cages is an essential prerequisite. The reliability of the net cages, i.e. the capability to retain fish avoiding therefore the risk of escape, depends on the following factors:

1. Netting breaking strength;
2. Loss of strength due to wear and tear of net for use;
3. High quality of assembled products;

The above elements can be hugely affected by raw materials used for nets manufacture as well as the method adopted for construction.

Fully aware of all these aspects, Badinotti, as one of the major net suppliers, uses the most modern machinery offering a wide range of knotless netting in nylon, polyester, polypropylene, and polyethylene for aquaculture application.

Our European production sites can boast a large production capacity, offering therefore excellent delivery times, thanks to the midland location in Europe.

In the beginning of 2007 Badinotti Slovakia established a new manufacturing unit just close to the the production plant.

Badinotti's Netloft is able to produce both handily and automatic machine sewing type, using the best and modern technology in the market.

The whole Badinotti nets production as well as manufacturing and assembling of cages for aquaculture are subjected to rigorous quality tests, whose validity and procedures applied are grant by the recent ISO 9001 and NS9415 certifications.

